

TWO NEW GENERA AND SEVEN NEW SPECIES OF THE  
FAMILY APHIDIDÆ.

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*Amphorophora howardii*, n. sp.

This species is dedicated to Dr. L. O. Howard, Chief of the U. S. Bureau of Entomology, who has in the past two years extended me many favours whereby I have been able to carry on my aphid studies with much benefit to myself.

*Alate viviparous female.*—General colour light brown; antennæ, head, thorax and legs black. Abdomen light brown, robust, and with a row of dusky transverse dorsally placed spots. Wings long, broad, and with the cubitus twice forked. Nectaries about one-fourth the length of the body, vasiform. Cauda ensiform, one-half the length of the nectaries; anal plate rounded; tip of abdomen and cauda with short bristles.

Antennæ with six segments and placed on prominent antennal tubercles. Spur of sixth longer than the third segment, and about five times as long as the sixth.

*Measurements.*—Length of body, 1.9 mm.; width, 9 mm.; length of antennæ by segments, I, .10 mm.; II, .05 mm.; III, .45 mm.; IV, .3 mm.; V, .33 mm.; VI, .15 mm.; spur of sixth, .7 mm.; total length, 2.98 mm.; length of wing, 3 mm.; total expanse, 6.5 mm.; nectaries, .41 mm.; cauda, .23 mm.

*Apterous viviparous female.*—General colour light brown, antennæ slightly longer than the body, and placed on more or less prominent tubercles; colour darker brown. Abdomen robust, each side with seven or eight dorsally placed black spots. Nectaries about one-fourth the length of the body and strongly vasiform; cauda ensiform.

*Measurements.*—Length of body, 1.75 mm.; width, .85 mm. Length of antennæ by segments, I, .10 mm.; II, .05 mm.; III, .4 mm.; IV, .29 mm.; V, .32 mm.; VI, .12 mm.; spur of sixth segment, .68 mm.; nectaries, .46 mm.; cauda, .22 mm.

This species was fairly abundant throughout the summer on the heads of *Panicularia nervata* among streams and in swampy ground about Batesburg, S. C.

*Aphis sassceri*, n. sp.

This species was sent to me by Mr. E. R. Sasscer, from Miami, Fla., where he collected it in the Subtropical Gardens from *Anona rectilinata*. Specimens were sent to me alive, and received June 2, 1910.

*Alate viviparous female*.—General colour orange-yellow, antennæ, thorax, distal ends of tibiæ, nectaries and tip of cauda dusky; wings hyaline. Antennæ with six segments, shorter than the body and not placed on antennal tubercles. Spur of sixth segment longer than any one segment, and about three times as long as the sixth; 5 slightly shorter than 4, and 3 and 4 about equal in length; third segment with four to six large round sensoria, fifth with one large sensorium near the distal end; first segment slightly gibbous at the upper inner angle. Head broad and nearly flat, slightly elevated at the inner base of each antennæ. Wings long and broad, veins hyaline. Abdomen robust, nectaries tapering and bent outward at the tip. Cauda two-thirds the length of the nectaries and knobbed at the end. Anal plate broadly rounded, tip of cauda and anal plate with a number of prominent hair-like bristles. Abdomen with a row of three black spots on each side, and also with a number of dentate tubercles in a line along each side.

*Measurements*.—Length of body, 1.05 mm.; width, 0.45 mm.; antennal segments, I, 0.05 mm.; II, .04 mm.; III, .17 mm.; IV, .14 mm.; V, .13 mm.; VI, .08 mm.; spur, .26 mm.; total length, .87 mm. Length of wing, 1.5 mm.; width, .56 mm.; total expansion, 3.82 mm. Length of nectaries, .12 mm.; length of cauda, .06 mm.

*Apterous viviparous female*.—General colour greenish-brown; antennæ, tarsi, tips of tibiæ, and nectaries dusky. Antennæ six-segmented, nearly as long as the body and not on antennal tubercles. Antennal segments compare as in alate form. Body short and stout, nectaries tapering and curved outward. Cauda broad, short and pointed. Abdomen with a row of five or six dentate tubercles along each side.

*Measurements*.—Length of body, 1 mm.; width, .56 mm. Length of antennal segments, I, .05 mm.; II, .04 mm.; III, .22 mm.; IV, .14 mm.; V, .14 mm.; VI, .09 mm.; spur, .22 mm.; total length, .9 mm.; nectaries, .10 mm.; cauda, .06 mm.

*Aphia minuta*, n. sp.

Collected on Aero potato, Bureau of Plant Introduction greenhouses at Washington, D. C. The plant belongs to the morning-glory family.

*Alate viviparous female*.—General colour yellowish-green, antennæ, tarsi, tips of femora and tibiæ, and nectaries dusky. Antennæ with six segments, not set on antennal tubercles, and as long as the body. Third segment the longest, but the spur of the sixth is longer than the third and

fourth segments together, and about five times as long as the sixth; fourth shorter than the fifth; third with two to five large round sensoria. Nectaries thick, about as long as the tarsi and tapering. Cauda large and slightly longer than the nectaries.

*Measurements.*—Length of body, 0.47 mm.; width, 0.18 mm. Length of antennæ by segments, I, .026 mm.; II, .026 mm.; III, .09 mm.; IV, .52 mm.; V, .06 mm.; VI, .05 mm.; spur, .19 mm.; length of wing, .97 mm.; total expanse, 2.1 mm.; length of nectaries, .08 mm.; cauda, .06 mm.

*Apterous viviparous female.*—General colour yellowish-green, tips of antennæ, tarsi and nectaries dusky. Body oboval and almost as broad as long. Antennæ as long as the body, with six segments and not placed on antennal tubercles; third segment the longest, but spur of sixth as long as the third and fourth together. Fifth segment with one large sensorium near the distal end. Nectaries twice as long as the tarsi, thick and tapering. Cauda two-thirds as long as the nectaries, broad and with a semi-knobbed tip. Anal plate very short and broadly rounded. Cauda and plate with few long hair-like bristles.

*Measurements.*—Length of body, .59 mm.; width, .47 mm. Length of antennal segments, I, .03 mm.; II, .026 mm.; III, .11 mm.; IV, .10 mm.; V, .06 mm.; VI, .052 mm.; spur, .19 mm.; nectaries, .08 mm.; cauda, .06 mm.

#### *Carolinaia*, n. gen.

This genus is closely related to *Cerosipha* in that the alate forms have six segments in the antennæ, while the apterous forms have but five. Antennæ shorter than the body, and not placed on antennal tubercles. Venation of fore wing regular, hind wings with but a single cross-vein. Nectaries about one-fifth the length of the body, and swollen in the middle. Cauda one-fourth the length of the nectaries and tapering.

#### *Carolinaia caricis*, n. sp.

*Alate viviparous female.*—General colour greenish-yellow, head and thorax black, antennæ, legs and nectaries dusky yellow. Antennæ shorter than the body, six-segmented and not on antennal tubercles. Sixth antennal segment slightly shorter than the spur, and about half as long as the third segment. Third with seven to eight round slightly raised sensoria. Wings long and slender, fore wing with regular venation, hind wing with but a single cross-vein. Nectaries one-fifth the length of the body and swollen in the middle. Cauda very short and tapering.

*Measurements*.—Length of body, 1.55 mm.; width, .67 mm. Length of antennal segments, I, .045 mm.; II, .066 mm.; III, .3 mm.; IV, .13 mm.; V, .12 mm.; VI, .13 mm.; spur, .22 mm.. Length of wing, 1.86 mm.; total wing expansion, 4.17 mm.; length of nectaries, .59 mm.; cauda, .09 mm.

*Apterous viviparous female*.—General colour greenish-yellow, tinged with brown. Body quite flat, slightly rounded above, cauda slightly darkened at the tip. Antennæ less than one-half the length of the body, and with but five segments, spur of the fifth slightly longer than the segment. Nectaries one-fourth the length of the body, and swollen in the middle. Cauda short and triangular.

*Measurements*.—Length of body, 1.55 mm.; width, 1 mm. Length of antennal segments, I, .045 mm.; II, .045 mm.; III, .18 mm.; IV, .066 mm.; V, .066 mm.; spur, .135 mm.; length of nectaries, .58 mm.; cauda, .09 mm.

Specimens collected on seed pack of *Carex* sp.; quite numerous in swamps, with two to ten specimens on a plant. Batesburg, S. C., summer of 1910.

*Pergandeida nigra*, n. sp.

*Alate viviparous female*.—General colour grayish-black, antennæ, except segments one and two, and tibia and tarsi yellowish. Wings hyaline, veins dusky. Antennæ shorter than the body, six-segmented and not on antennal tubercles. Segments three to six and spur slender, one and two stout. Spur of sixth segment longer than third segment, third with four to seven large round sensoria more or less regularly placed. Head with a prominent frontal ocellus and raised at the inner base of each antennæ. Prothorax with a single dentate projection on each side. Abdomen also with a single protuberance on each side close to those of the thorax. Wings long and robust, with the second fork of the median vein running close to the edge of the wing. Abdomen robust, and with a number of protuberances on each side. Nectaries twice as long as broad and tapering. Caudal plate broad and tapering.

*Measurements*.—Length of body, .89 mm.; width, .39 mm. Length of antennal segments, I, .039 mm.; II, .039 mm.; III, .15 mm.; IV, .104 mm.; V, .09 mm.; VI, .065 mm.; spur, .26 mm.; nectaries, .065 mm.; cauda, .07 mm.

*Apterous viviparous female*.—General colour grayish-black, segments three to six of antennæ, tibia and tarsi yellowish. Antennæ shorter than the body and without antennal tubercles. The lateral projections of the body are very distinct, there being three sets of large and three sets of small protuberances, the first set placed just behind the eyes, the second midway on the abdomen, and a third large pair between the base of the nectaries and the cauda. Nectaries about twice as long as wide and tapering; cauda short and thick.

*Measurements*.—Length of body, .79 mm.; width, .49 mm. Length of antennal segments, I, .04 mm.; II, .03 mm.; III, .12 mm.; IV, .08 mm.; V, .09 mm.; VI, .065 mm.; spur, .235 mm.; length of nectaries, .05 mm.; cauda, .08 mm.

Collected from *Cyrilla racemiflora* at Batesburg, S. C., during the summer of 1910.

*Anæcia Enotheræ*, n. sp.

*Alate viviparous female*.—General colour yellowish-green, antennæ, head, thorax and legs dusky to black. Antennæ about one-third the length of the body, with six segments, the sixth bearing a short thumb-like spur. Antennal tubercles wanting. Spur of sixth segment about one-fourth the length of the segment, the segment being slightly longer than five, and about one-half as long as three. Five slightly longer than four, and four not much longer than one or two. Third segment with three or four widely-separated sensoria, which are not as prominent as those in other species of *Anæcia*. Fourth with one or two near the distal end. Fifth with one large sensorium near the distal end and sixth with one large and several small sensoria at the base of the spur. Head broadly rounded, body short and robust, wings short and broad. Wing-veins not heavy, fore wing with two oblique veins and cubitus once forked. Abdomen yellowish, with five dorsal stripes distally placed, and a row of six or seven black spots, one each side. Nectaries are but flanged edges on a slightly raised base. Cauda broadly rounded and broader than long. Anal plate broadly rounded and merged into the abdomen. Antennæ, legs, cauda and tip of abdomen with numerous fine hairs.

*Measurements*.—Length of body, 1.66 mm.; width, .76 mm. Length of antennal segments, I, .04 mm.; II, .05 mm.; III, .18 mm.; IV, .065 mm.; V, .09 mm.; VI, .078 mm.; spur, .03 mm.; length of wing, 1.89 mm.; total expansion, 4.0 mm.; length of nectaries, .04 mm.; cauda, .15 mm.

*Apterous viviparous female*.—General colour yellow, tips of the antennæ, tibia and tarsi dusky. Antennæ six-segmented and not on antennal tubercles. Spur of sixth segment one-third as long as segment, fifth and sixth equal; four shorter than five, and third as long as the fourth, fifth and sixth together; eyes undeveloped, nectaries as in alate form. Cauda and end of abdomen a little more pointed. Abdomen with three or four dorsal stripes. Antennæ, legs and body with numerous fine hairs.

*Measurements*.—Length of body, 1.68 mm.; width, 1.09 mm. Length of antennal segments, I, .05 mm.; II, .05 mm.; III, .18 mm.; IV, .052 mm.; V, .065 mm.; VI, .065 mm.; spur, .03 mm.; length of nectaries, .04 mm.; cauda, .19 mm.

This species was very abundant in the cotton fields on the roots of *Enothera* sp. up to the time that the migration commenced, about the first of May. After the last of May very few specimens were to be found. A search was made for the summer host-plant, but without success. The first winged specimens were taken May 2, 1910.

#### *Georgia*, n. gen.

This genus is probably closely related to both *Schizoneura* and *Pemphigus*, and may prove to be the dividing genus. The wings are veined, as are those of the species which belong in *Schizoneura*, while the antennæ are similar to those species belonging in the *Pemphigus* group. The stem mother has five segmented antennæ, with a very short spur. Antennæ of the alate females with six segments and a short spur, segments three to five being more or less corrugated on the outer side, the corrugations being rudimentary sensoria. Front pair of wings with the cubital vein once forked. Hind wing with but a single oblique vein, which is sometimes forked about a third of the way from its base.

#### *Georgia ulmi*, n. sp.

*Apterous stem mother*.—General colour reddish-brown; head short and dished, body oboval in shape. Antennæ short and with five segments, the spur of the fifth being very short; third longer than the fourth, fifth and spur; eyes small and apparently simple. Nectaries are but pores, cauda very short and broadly rounded.

*Measurements*.—Length of body, 1.5 mm.; width, 1.17 mm. Length of antennal segments, I, .04 mm.; II, .056 mm.; III, .15 mm.; IV, .07 mm.; V, .042 mm.; spur, .021 mm.

*Alate viviparous female.*—General colour reddish-brown, head and thorax black, the third segment of the antennæ and the femur of each leg dusky, the remaining segments of the antennæ and the other parts of the legs are greenish-yellow. Antennæ about one-third the length of the body and not on antennal tubercles. Spur very short. Third segment as long as the fourth, fifth and sixth together, and with nine to ten transverse rudimentary sensoria or elevations along the outer side. Fourth with four to six, and the fifth with three to five toward the distal end. Forehead slightly dished, body elongate, wings hyaline, with veins slender and dusky. Fore wing with venation as in *Schizoneura*, hind wing with one oblique vein, which is sometimes forked. Nectaries are but pores, with a slightly thickened edge. Cauda triangular and short. Body with a row of small pores along each side of the abdomen, about six in number.

*Measurements.*—Length of body, 1.85 mm.; width, .94 mm.; length of wing, 2.4 mm.; width, 1.88 mm.; total expansion, 4.6 mm.; antennal segments, I, .056 mm.; II, .056 mm.; III, .33 mm.; IV, .11 mm.; V, .084 mm.; VI, .07 mm.; spur, .014 mm.

The pseudo-gall formed by this species is made on one edge of the leaf, and is spindle-shaped in form, being about one-fourth of an inch in diameter, and from one to two inches in length. When first formed the leaves turn yellow, and then red, after which they drop off.

Collected at Batesburg, S. C., spring of 1910.

The second generation is winged, and migrate from elm during the early summer.

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## THECLA CHRYSALUS, EDWARDS, AND ITS VARIETY CITIMA, HENRY EDWARDS.

BY WM. PHILLIPS COMSTOCK, NEWARK, N. J.

On pages 374 and 375 of the November issue of the CANADIAN ENTOMOLOGIST, Mr. Karl R. Coolidge says: "I can see no need of retaining *citima* Hy. Edwards in our catalogues as a variety of *chrysalus*, since it is only an individual variant." Having in my collection a very fine series of *Thecla chrysalus*, I feel called upon to answer this remark.

From a variation series of ten males and ten females which were selected from more than twice this number of specimens, I feel confident that *citima* may be held as a good varietal name for a geographical form of *Thecla chrysalus*. In many specimens the orange markings of the upper side are completely wanting, and the ground colour of the under